

## AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior version, and listings, of claims in the application:

### **Listing of Claims:**

1. (Currently Amended) A method for managing biological information related to a biological experiment comprising:
  - acquiring one or more biological values of the biological information using a probe array to conduct the biological experiment;
  - generating a data template including one or more identifiers related to the use of the probe array;
  - specifying in the data template one or more biological attributes for each of the one or more identifiers and one or more control type attributes having one or more predefined attribute values; and
  - selecting a first identifier of the one or more identifiers from a drop-down list containing the one or more predefined attribute values; and
  - receiving in the data template the one or more biological values for at least one of the one or more identifiers in accordance with the one or more biological attributes.
2. (Previously Presented) The method of claim 1, further comprising:
  - storing the one or more biological values for the one or more identifiers in a data structure.
3. (Original) The method of claim 2, wherein:
  - the data structure is included in a database.
4. (Previously Presented) The method of claim 1, wherein:
  - the one or more identifiers comprise biological experiment identifiers and the data templates comprise a biological experiment data template.

5. (Previously Presented) The method of claim 1, wherein:  
the one or more identifiers comprise sample identifiers and the data template comprises a sample data template.
6. (Previously Presented) The method of claim 2, wherein:  
the data structure comprises an experiment information file for storing the biological information related to the biological experiment.
7. (Previously Presented) The method of claim 1, further comprising:  
displaying, prior to receiving the biological values for the one or more identifiers, the data template to a first user.
8. (Original) The method of claim 7, wherein:  
the value is provided by the first user responsive to displaying the data template.
9. (Original) The method of claim 7, wherein:  
the value is provided by the first user in accordance with a first type attribute.
10. (Previously Presented) The method of claim 9, wherein:  
the first type attribute comprises one or more of the group consisting of a date attribute, time attribute, integer attribute, floating point data attribute, character string attribute, required attribute, or controlled attribute.
11. (Original) The method of claim 10, wherein:  
the value is provided by the first user in accordance with a required attribute.
12. (Original) The method of claim 11, wherein:  
the required attribute specifies that the value is either required or not required to be received.
13. (Original) The method of claim 10, wherein:  
the value is provided by the user in accordance with a controlled attribute.

14. (Original) The method of claim 13, wherein:  
the controlled attribute specifies that the value is to be one or more of a plurality of user-specified values specified by a second user.
15. (Original) The method of claim 14, wherein:  
the first and second users are different users.
16. (Previously Presented) The method of claim 2, further comprising:  
storing instrument information for at least one instrument in the data structure,  
wherein the instrument is included in the biological experiment related to the probe array.
17. (Previously Presented) The method of claim 2, further comprising:  
storing image data in the data structure, wherein the image data is based, at least in part, on scanning of the probe array.
18. (Previously Presented) The method of claim 17, further comprising:  
analyzing the image data to generate results data; and  
storing the results data in the data structure.
19. (Previously Presented) The method of claim 18, further comprising:  
tracking the value, the image data, and the result data.

20. (Previously Presented) A method for managing biological experiment information generated through the performance of a biological experiment with probe arrays, the method comprising the steps of:

- receiving from a first user a selection of a first data template having a plurality of selected identifiers each identifying an attribute of the biological experiment;

- displaying the first data template to the first user in response to the selection;

- acquiring one or more biological values of the biological information using the probe arrays;

- receiving from the first user the biological values for one or more of the identifiers of the first data template in accordance with the attributes identified by the one or more identifiers; and

- saving the biological values in a data structure.

21. (Previously Presented) The method of claim 20, wherein receiving the selection of the first data template comprises:

- displaying a list of names of a plurality of data templates; and

- receiving from the first user, a selection of one of the displayed list of names, a name of the first data template.

22. (Previously Presented) The method of claim 21, wherein:

- the plurality of data templates include one or more default data templates.

23. (Original) The method of claim 21, wherein:

- the list of names is displayed to the first user in a tree structure of a graphical user interface.

24. (Previously Presented) The method of claim 20, wherein:

- the data structure includes an experiment information file.

25. (Original) The method of claim 24, wherein:

- the experiment information file is included in a database.

26. (Previously Presented) The method of claim 20, further comprising:  
generating the first data template based, at least in part, on a second user specifying the plurality of identifiers.
27. (Previously Presented) The method of claim 26, further comprising:  
generating the first data template based, at least in part, on the second user specifying the attributes of the plurality of identifiers.
28. (Original) The method of claim 27, wherein:  
the first and second users are different users.
29. (Previously Presented) A computer program product, comprising:  
a template generator that generates a data template including one or more identifiers of one or more biological experiments using probe arrays, each identifying an attribute of the experiment;  
a value receiver that receives values for the identifiers in accordance with their attributes; and  
a data storage manager that stores the values in a data structure;  
wherein the values are based on the one or more biological experiments.
30. (Original) The computer program product of claim 29, wherein:  
the identifiers include experiment identifiers and the data template includes an experiment data template.
31. (Original) The computer program product of claim 29, wherein:  
the identifiers include sample identifiers and the data template includes a sample data template.
32. (Original) The computer program product of claim 29, wherein:  
the data structure includes an experiment information file.

33. (Original) The computer program product of claim 29, wherein:

the template generator generates the data template in response to a first user specifying at least one of the one or more identifiers.

34. (Original) The computer program product of claim 29, wherein:

the template generator generates the data template in response to a first user specifying at least one attribute of the one or more identifiers.

35. (Original) The computer program product of claim 33, wherein:

the data template is selected by a second user.

36. (Previously Presented) The computer program product of claim 29, wherein:

the data storage manager further stores instrument information regarding at least one instrument in the data structure, wherein the instrument is included in the one or more experiments.

37. (Original) The computer program product of claim 29, wherein:

the data storage manager further stores image data in the data structure, wherein the image data is based, at least in part, on scanning of the one or more probe arrays.

38. (Previously Presented) The computer program product of claim 29, further comprising:

an analysis application that analyzes the image data to generate results data; and  
wherein the data storage manager further stores the results data in the data structure.

39. (Previously Presented) A computer implemented system for managing information of probe array experiments, comprising:

- a computer-readable storage medium;
- a database;
- a data template generator coupled to the computer-readable storage medium; and
- an experiment manager coupled to the computer-readable storage medium and the database,

wherein the data template generator generates at least one user-defined data template and stores the user-defined data template on the computer-readable storage medium, each user-defined data template defining attributes of a set of user selected experiment identifiers, a data template being selected from the at least one user-defined data template by a user using the experiment manager, experiment identifiers being inputted using the experiment manager according to the selected data template, the inputted experiment identifiers being stored in the database as an experiment information file.

40. (Original) The system of claim 39, wherein:

- instrument information is included in the experiment information file.

41. (Original) The system of claim 39, further comprising:

- a data processor, coupled to the database, for acquiring experiment data and storing the experiment data as an experiment data file in the database, a data analyzer, connected to the database, for analyzing the experiment data, generating analyzed result files, and storing the analyzed result files in the database; and

- a file manager for tracking the experiment information file, the experiment data file, and the analyzed result files.

42. (Original) The system of claim 41, wherein:

- the experiment data file is an image file.

43. (Original) The system of claim 41, wherein:

the file manager tracks the experiment information file, the experiment data file, and the analyzed result files according to the file names.

44. (Previously Presented) A computer implemented system for managing information of probe array experiments, comprising:

a computer-readable storage medium having at least one default data table stored thereon;

a database;

a data template generator coupled to the computer-readable storage medium; and

an experiment manager coupled to the computer-readable storage medium and the database;

wherein the data template generator generates at least one user-defined data template and stores the user-defined data template on the computer-readable storage medium, each user-defined data template defining the attributes of a set of user selected experiment identifiers, a data template being selected from the group consisting of the default data table and the user-defined data template by a user using the experiment manager, experiment identifiers being inputted using the experiment manager according to the selected data template, the inputted experiment identifiers being stored in the database as an experiment information file.



45. (Previously Presented) A method for managing information obtained when performing a biological experiment on a biological sample comprising:

- generating an experimental data template including one or more experimental identifiers that are specified as having one or more experimental attributes;

- generating a sample data template including one or more sample identifiers related to the biological sample, wherein the one or more sample identifiers are specified as having one or more sample attributes;

- storing the experimental data template and sample data template on a storage medium;

- inputting into an experimental manager at least one experimental value and at least one sample value, wherein the at least one experimental value is inputted by retrieving the experimental data template and receiving in the experimental data template the one or more experimental values for at least one of the one or more experimental identifiers in accordance with the one or more experimental attributes, and wherein the at least one sample value is inputted by retrieving the sample data template and receiving in the sample data template the one or more sample values for at least one of the one or more sample identifiers in accordance with the one or more sample attributes; and

- capturing instrument operational values directly from at least one instrument used to conduct the biological experiment by the experimental manager.

46. (Previously Presented) A method for managing biological information related to a biological experiment comprising:

- acquiring one or more biological values of the biological information using a probe array to conduct the biological experiment;

- generating a data template including one or more identifiers related to the use of the probe array;

- specifying in the data template one or more attributes for each of the one or more identifiers, wherein at least one of the one or more attributes is a biological attribute; and

- receiving in the data template the one or more biological values for at least one of the one or more identifiers in accordance with the one or more attributes.

47. (Previously Presented) The method of claim 46, wherein the biological attribute is the concentration of the probe and target, time, temperature, cation concentration, valency and character, pH, dielectric and chaotropic media, or density spacing of the probe molecules synthesized on the surface.